REMARKS

The Office Action mailed April 13, 2006, has been received and reviewed. Claims 1 through 60 are currently pending in the application, of which claims 36 through 60 are currently under examination. Claims 1 through 35 are withdrawn from consideration as being drawn to a non-elected invention, and have been canceled herein. Claims 36 through 60 stand rejected. Applicants have amended claims 36, 49 and 59, entered new claims 61 through 74, and respectfully request reconsideration of the application as amended herein.

Information Disclosure Statement

Please note that an Information Disclosure Statement was filed herein on August 1, 2003, and that while copies of pages 1 and 2 were returned, no copy of page 3 of 3 of the PTO/SB/08 was returned with the outstanding Office Action. Applicants respectfully request that the information cited on page 3 of 3 of the PTO/SB/08 be made of record herein. For the sake of convenience, a second copy of the August 1, 2003, Information Disclosure Statement, page 3 of 3 of the PTO/SB/08 with copy of cited references, and USPTO date-stamped postcard are enclosed herewith. It is respectfully requested that an initialed copy of the PTO/SB/08 evidencing consideration of the cited references be returned to the undersigned attorney.

35 U.S.C. § 102(b) and (e) Anticipation Rejections

Anticipation Rejection Based on U.S. Patent No. 5,543,199 to Fell

Claims 36 through 60 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Fell (U.S. Patent No. 5,543,199). Applicants respectfully traverse this rejection, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Independent claim 1 is directed to an apparatus for forming elongated composite structural members. As amended herein, the apparatus of claim 1 comprises: a base; at least one mandrel mounted on the base, the at least one mandrel exhibiting a substantially elongated geometry; a carriage assembly movably coupled to the base; at least one roller exhibiting a geometry having a substantially continuously convex engagement surface as it rotates about an axis which is configured to at least partially complementarily engage the least one mandrel as the at least one roller rolls there along, the at least one roller being coupled with the carriage assembly; and at least one force-applying mechanism configured to apply a desired force to the at least one mandrel through the at least one roller.

The Examiner cites Fell as describing:

> [A]n apparatus for forming elongated composite structural members comprising (column 1, lines 14-20) comprising [sic]: a base (figure 1); at least one mandrel mounted on the base, the at least one mandrel exhibiting a substantially elongated geometry (items 1 and 4 – figures 1 and 2A); a carriage assembly movable coupled to the base (column 13, lines 44-45); at least one roller exhibiting a geometry configured to at least partially complementarily engage the at least one mandrel as the at least one roller rolls there along (column 12, lines 24-27; column 13, lines 1-10), the at least one roller coupled with the carriage assembly (column 13, lines 44-45); and at least one force-applying mechanism configured to apply a desired force to the at least one mandrel through the [at] least one roller (column 13, lines 14-15, column 16, lines 45-50). (Office Action, pages 2 and 3).

Fell describes an apparatus for forming a honeycomb structure which includes a plurality of retractable, hexagonal formers (1 and 4) disposed adjacent to one another so as to define the lower portion of a corrugated sheet having a node-antinode geometry. (Col. 8, lines 39-64). In one embodiment, a "toothed cylinder or wheel (31) supplies pressure to the node-antinode contact area (32) as it rolls across the honeycomb top surface." (Col. 12, lines 25-27).

However, Fell fails to describe at least one roller exhibiting a geometry having a substantially continuously convex engagement surface as it rotates about an axis, the engagement

surface being configured to at least partially complementarily engage the least one mandrel as the at least one roller rolls there along. Rather, Fell expressly discloses a toothed cylinder or wheel which, by definition, and by inspection of the accompanying drawing figures, includes an engagement surface having multiple concavities or recesses as it rolls about its axis. As such, Applicants submit that claim 36 is clearly not anticipated by Fell.

Applicants further submit that claims 37 through 60 are also allowable as being dependent from an allowable base claim as well as for the additional patentable subject matter introduced thereby.

With respect to claim 37, Applicants submit that Fell's description of alternative geometrical shapes and use of multiple rollers fails to inherently or expressly describe at least one roller and carriage assembly being mutually configured for the at least one roller to be removed from the carriage assembly and replaced by another roller exhibiting a geometry configured to substantially completely complementarily engage the at least one mandrel.

With respect to claim 40, Applicants submit that Fell fails to describe an automated material-dispensing device *configured to dispense the plurality of plies of material including a first ply exhibiting a first width and at least a second ply exhibiting a second width different than the first width.* Applicants note that the Examiner's citation to "additional layers ($8,8^1$)" by Fell does not indicate that such additional layers were disposed by an automated material dispensing device.

With respect to claim 45, Applicants submit that Fell fails to describe the at least one force-applying mechanism as including at least one weight operably coupled to the at least one roller to press the at least one roller over the at least one mandrel.

With respect to claims 46 and 47, Applicants submit that, while Fell describes the use of hydraulic and pneumatic pistons for the positioning of the formers, Applicants find no description by Fell regarding the force-applying mechanism between the at least one roller and the at least one mandrel as including a hydraulic (claim 46) or pneumatic (claim 47) system.

With respect to claim 49, Applicants submit that Fell fails to describe the at least one mandrel including a plurality of mandrels laterally spaced from one another, wherein the at least

one roller is configured to move laterally with respect to the length of the substantially elongated geometry of the mandrel and independently engage each of the plurality of mandrels.

With respect to claim 51, Applicants submit that Fell fails to describe the at least one mandrel including a plurality of mandrels laterally spaced from one another, wherein the plurality of mandrels includes a first mandrel exhibiting a first geometric configuration and a second mandrel exhibiting a second geometric different from the first geometric configuration. Rather, all of the formers of Fell appear to be configured substantially identical to one another.

With respect to claims 59 and 60, Applicants submit that Fell fails to describe the at least one mandrel as including a first section extending along a longitudinal axis and a second section which deviates from the longitudinal axis, and wherein the carriage assembly and the at least one roller are configured to maintain engagement with the second section as it deviates from the longitudinal axis. Applicants further submit, with respect to claim 60, that Fell fails to describe at least one roller being configured to remain substantially continuously engaged with the at least one mandrel as it moves relative to the base over the first mandrel section and the second mandrel section.

Applicants, therefore, respectfully request reconsideration and allowance of claims 36 through 60.

Anticipation Rejection Based on U.S. Publication No. 2003/0079825 to Gardner et al.

Claims 36, 37, and 39 through 45 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Gardner et al. (U.S. Publication No. 2003/0079825). Applicants respectfully traverse this rejection, as hereinafter set forth.

The Examiner cites Gardner as describing:

> [A]n apparatus for forming elongated comprising composite structural members comprising (abstract): a base; at least one mandrel mounted on the base, the at least one mandrel exhibiting a substantially elongated geometry (item 25 – figure 3; paragraph 0020); a carriage assembly movable coupled to the base (paragraph 0020); at least one roller exhibiting a geometry configured to at least partially complementarily engage the

> [at] least one mandrel as the at least one roller rolls there along (item 27 – figures 4-6; paragraph 0021), the at least one roller coupled with the carriage assembly (paragraph 0021); and at least one force-applying mechanism configured to apply a desired force to the at least one mandrel through the at least one roller (paragraph 0022). (Office Action, page 6).

Gardner, describes an apparatus for fabricating corrugated composite stiffeners which includes a base tool (25) having grooves (33) formed in an outer surface. A roller (27) includes a rotating shaft (39) and is surrounded by an elastomeric member (41) which includes four lobes (43A-43D) formed on its outer surface. The lobes are shaped to match the geometry of the grooves of the base tool. (Paragraphs 0019-0021).

However, Gardner fails to describe at least one roller exhibiting a geometry having a substantially continuously convex engagement surface as it rotates about an axis, the engagement surface being configured to at least partially complementarily engage the least one mandrel as the at least one roller rolls there along. Rather, Gardner expressly discloses a lobed roller which, by definition, and by inspection of the drawing figures, includes an engagement surface having multiple concavities or recesses as it rolls about its shaft. As such, Applicants submit that claim 36 is clearly not anticipated by Gardner.

Applicants further submit that claims 37 and 39 through 45 are also allowable as being dependent from an allowable base claim as well as for the additional patentable subject matter introduced thereby.

With respect to claim 40, Applicants submit that Gardner fails to describe an automated material-dispensing device *configured to dispense the plurality of plies of material including a first ply exhibiting a first width and at least a second ply exhibiting a second width different than the first width.* Applicants note that the Examiner's citation to Gardner describing a desired number of layers of material is not that same as dispensing plies of material that exhibit different widths.

With respect to claim 45, Applicants submit that Gardner fails to describe the at least one force-applying mechanism as including at least one weight operably coupled to the at least one roller to press the at least one roller over the at least one mandrel.

Applicants, therefore, respectfully request reconsideration and allowance of claims 36, 37 and 39 through 45.

ENTRY OF AMENDMENTS

The amendments to claims 36, 48, 49 and 59 above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application.

ENTRY OF NEW CLAIMS

New claims 61 through 74 above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application.

Additionally, it is noted that many of the new independent claims include subject matter previously presented but in new combinations. Applicants submit that neither Fell nor Gardner describe: a first roller configured to engage a first portion of the at least one mandrel and at least a second roller configured to engage a second portion of the at least one mandrel, the first portion of the at least one mandrel being substantially different than the second portion of the at least one mandrel (claims 61 and 69); at least one mandrel exhibiting a cross-sectional geometry taken substantially transverse to a length thereof, wherein the plurality of rollers includes a first roller configured to engage a portion of the at least one mandrel at a first location with respect to the cross-sectional geometry and at least a second roller configured to engage another portion of the at least one mandrel at a second location with respect to the cross-sectional geometry, the first location be substantially different than the second location (claims 64 and 70); a carriage assembly movably coupled to the base such that it displaces the at least one roller in a longitudinal direction with respect to the substantially elongated geometry of the at least one

mandrel (claims 67 and 71); at least one roller configured to move laterally with respect to a length of the substantially elongated geometry of the at least one mandrel while maintaining engagement with the at least one mandrel as the at least one roller is displaced in a direction along the length of the substantially elongated geometry of the at least one mandrel (claims 68 and 72); a first mandrel mounted on the base, the first mandrel exhibiting a first geometric configuration, a second mandrel mounted on the base, the second mandrel exhibiting a second geometric configuration different from the first geometric configuration and at least one roller exhibiting a geometry configured to at least partially complementarily engage at least one of the first mandrel and the second mandrel as the at least one roller rolls there along (claim 73); or at least one mandrel mounted on the base, the at least one mandrel exhibiting a substantially elongated geometry, the at least one mandrel including a first section extending along a longitudinal axis and a second section which deviates from the longitudinal axis, at least one roller exhibiting a geometry configured to at least partially complementarily engage the least one mandrel as the at least one roller rolls there along, wherein the carriage assembly and the at least one roller are configured to maintain engagement with the second section as it deviates from the longitudinal axis (claim 74).

CONCLUSION

Claims 36 through 74 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, the Examiner is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,

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